

A1 B1
Conv't.

25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69,
71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93 or 94.

57. [Amended] The isolated nucleic acid molecule of Claim 1, wherein said isolated nucleic acid molecule encodes a P₄₅₀ oxidase, a hexopyranosyl-2-3-reductase, or a UDP-D-glucose 6-dehydrogenase from *Micromonospora echinospora* spp. *calichensis*

A2

58. [Amended] The isolated nucleic acid molecule of Claim 1, wherein said isolated nucleic acid molecule encodes a membrane transporter, an *O*-methyltransferase, a glycosyltransferase, a *N,N*-dimethyltransferase, a dipeptide transporter, an L-cysteine/cystine C-S-lyase, an oligopeptide transporter protein, a regulatory protein, a desaturase, a transcriptional regulator, an oxygenase, a halogenase, a β -keto-acyl synthase III, a cytochrome P450, a TDP-4-keto-6-deoxy-L-hexose 2,3-dehydrogenase, an orsellenic acid synthase, a polyketide cyclase, a polyketide synthase, an integrase, a chromosome partitioning protein, a hydroxylase, an aminotransferase, a glu-ammonia-ligase andenylyltransferase, a methyltransferase, an integral membrane protein, a membrane protein, an immunity resistance protein, or an insertional element from a gene cluster of *Micromonospora echinospora* spp. *calichensis* coding for calicheamicin biosynthesis.

A3

101. [Amended] A polypeptide comprising amino acid sequence SEQ ID. No.: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92 or 95.